

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1 – 2. (Cancelled).

3. (Currently Amended) A method of producing a superconducting wire, comprising:

planarizing a textured metal substrate by at least one of mechanochemistry, ~~electrolytic polishing~~, and chemical polishing to have a surface layer extending from a surface thereof to a depth of 300 nm with a crystal axis offset relative to an orientation axis by at most 25°, and a surface roughness  $R_{P-V}$  of at most 150 nm;

thermally treating said textured metal substrate at a temperature of 500°C to 800°C in a reduced or vacuumed atmosphere at least once; and

depositing a superconducting layer on said textured metal substrate that has been thermally treated.

4. –8. (Cancelled).

9. (Currently Amended) A method of producing a superconducting wire, comprising:

planarizing a textured metal substrate by at least one of mechanochemistry, ~~electrolytic polishing~~, and chemical polishing to have a surface layer extending from a surface thereof to a depth of 300 nm with a crystal axis offset relative to an orientation axis by at most 25°, and a surface roughness  $R_{P-V}$  of less than or equal to 150 nm;

thermally treating said textured metal substrate at a temperature of 500°C to 800°C in a reduced or vacuumed atmosphere at least once;

depositing an intermediate layer on said textured metal substrate that has been thermally treated; and

depositing a superconducting layer on said intermediate layer.

10. – 14. (Cancelled).

15. (Previously Presented) The method according to claim 3, wherein planarizing the textured metal substrate comprises planarizing the textured metal substrate such that the crystal axis is offset relative to the orientation axis by at most 12°.

16. (Previously Presented) The method according to claim 3, wherein planarizing the textured metal substrate comprises planarizing the textured metal substrate such that the crystal axis is offset relative to the orientation axis by at most 10°.

17. (Previously Presented) The method according to claim 9, wherein planarizing the textured metal substrate comprises planarizing the textured metal substrate such that the crystal axis is offset relative to the orientation axis by at most 12°.

18. (Previously Presented) The method according to claim 9, wherein planarizing the textured metal substrate comprises planarizing the textured metal substrate such that the crystal axis is offset relative to the orientation axis by at most 10°.

19. (Previously Presented) The method according to claim 3, wherein the thermally treating said textured metal substrate occurs at a temperature of 600°C to 700°C in a reduced or vacuumed atmosphere at least once.

20. (Previously Presented) The method according to claim 9, wherein the thermally treating said textured metal substrate occurs at a temperature of 600°C to 700°C in a reduced or vacuumed atmosphere at least once.

21. (Currently Amended) The method according to claim 3, wherein the vacuumed atmosphere is at a pressure of less than  $1.33 \times 10^{-2}$  Pa.

22. (Previously Presented) The method according to claim 3, wherein the thermal treatment occurs for at least 2 minutes.

23. (New) The method according to claim 3, wherein the planarizing by mechanochemistry includes applying a polishing slurry that comprises a corrosive acidic or basic liquid.

24. (New) The method according to claim 23, wherein applying the polishing slurry includes pressing and rotating an applicator to apply the polishing slurry on the metal substrate.

25. (New) The method according to claim 23, wherein the basic liquid for the polishing slurry comprises SiO<sub>2</sub> or Al<sub>2</sub>O<sub>3</sub>.

26. (New) The method according to claim 3, wherein the reduced atmosphere during the thermal treatment comprises hydrogen and argon gas being at least 1 mol% concentration.

27. (New) The method according to claim 3, wherein the reduced atmosphere during the thermal treatment comprises hydrogen and argon gas being at least 3 mol% concentration.